

Senate Select Committee on Perchlorate Contamination

Status of Cleanup Efforts in the Inland Empire

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Affected Public Drinking Water Wells

- Riverside County: 42
- San Bernardino County: 99
- Orange County: 31
- Santa Ana Region total: 172
- Statewide: 338

Perchlorate Source Areas

- North Rialto (DOD, defense contractors, fireworks)
- Mentone (Lockheed Martin)
- Glen Avon (Stringfellow site)
- Orange County (Colorado River water)

Affected Wells

- SAR total: 172
- Known sources: 97
- Unknown sources: 75

Lockheed Plume

- Plume from Mentone facility
- Rocket motor and propellant development
- 6-mile long plume of perchlorate and TCE
- Regional Board issued Cleanup and Abatement Orders in 1994 & 1997
- Perchlorate present in 46 municipal wells of five water purveyors

Lockheed Plume

- Lockheed cooperative – Water supply contingency agreements, Loma Linda, Victoria Farms, Riverside, and funds for Redlands
- Wellhead treatment, alternative water supplies, drilling new wells, blending
- Estimated \$73 million spent to date on VOCs and perchlorate







Rialto/Colton/Fontana Wells Affected by Perchlorate

| | | |
|----------------|----------|-------------------|
| ■ WVWD – | 5 | 8,819 gpm |
| ■ Rialto – | 5 | 12,552 gpm |
| ■ Colton – | 3 | 4,713 gpm |
| ■ Fontana WC – | <u>7</u> | <u>14,900 gpm</u> |
| Total | 20 | 40,135 gpm |

Rialto/Colton/Fontana

- Very high Regional Board priority
- Regional Board receives detailed briefing at each Board meeting
- Perchlorate Task Force meets regularly
- Investigation and enforcement related to the R/C/F problem has already used all groundwater contamination investigation staff resources for the entire year

Rialto/Colton/Fontana

- Regional Board has notified State Board that we will re-direct resources from TMDLs to support staff efforts for the remainder of the year
- State Board director has expressed support for this effort





R/C/F Regulatory Activities

- 21 Investigation Orders, pursuant to CWC 13267
 - ◆ 14 Soil & GW Investigation Orders
 - ◆ 7 work plans received
 - ◆ 2 more due in March
 - ◆ 7 Orders for Investigation of Records
 - ◆ 6 received, one more due in March

R/C/F Regulatory Activities

■ Enforcement Actions

- ◆ 4 Notices of Violation
- ◆ 3 Administrative Civil Liability
Complaints issued (\$30,000 collected)
- ◆ 1 Cleanup and Abatement Order to San Bernardino County
- ◆ 1 Cleanup and Abatement Order pending for Astro/Peters/Whittaker Corp.

Wellhead Treatment Systems

- \$3,000,000 from SWRCB Cleanup and Abatement Account
- \$3,000,000 (+/-) from Props 13 and 50
- \$4,000,000 from Goodrich settlement
- \$135,000 to date from Regional Board liability assessment contributions
- Regional Board requested an additional \$2,000,000 from Cleanup and Abatement Account

Wellhead Treatment Systems

- City of Colton – All 3 affected wells have treatment systems
- City of Rialto – 5 wells
 - ◆ 2003 – one well treated
 - ◆ 2004 – two more wells to be added



Wellhead Treatment Systems

- West Valley Water District – 5 wells
 - ◆ 2003 – two wells treated
 - ◆ 2005 – another well, early 2005
- Fontana Water Company – 7 wells
 - ◆ 2004 – two wells treated, another planned to be added later



Water Purveyor Expenditures

- Available funding \$10,135,000
- Rialto - \$1.49 million
- Colton - \$1.44 million
- West Valley Water District - \$1.17 million
- Fontana Water Company - \$2.95 million

U.S. Army Corps of Engineers

- Rialto Ammunition Back-up Storage Point operated from 1941-45
- October 2002 – Investigation Order (soil and groundwater investigation)
- November 2002 – ACOE declines to conduct investigation but initiates records search

U.S. Army Corps of Engineers

- February 25, 2004 – “Operational History” report submitted
- Report submitted under “limited waiver of attorney work product privilege,” citing Rialto litigation
- Report apparently does not include all findings of ACOE research

San Bernardino County

- County purchased former bunker area for landfill expansion
- Gravel operation on county site mobilized new release of perchlorate, apparently from historic uses
- August 2002 – County installs 16 temporary and 8 permanent gw monitoring wells

San Bernardino County

- September 2002 – 13267 Investigation Order
- November 2002 – County submits required investigation work plan
- January 2003 – Cleanup and Abatement Order adopted
 - ◆ Define lateral and vertical extent of plume
 - ◆ Detailed remedial action plan required

San Bernardino County

- April – October 2003 – County investigation includes: 17 shallow exploratory boreholes, 5 deep boreholes, 57 temporary monitoring wells, 13 permanent monitoring wells, three dimensional numerical groundwater model to simulate contaminant transport

San Bernardino County

- January 2004 – County ordered to complete additional investigations
- February 2004 – County submits work plan for six additional gw monitoring wells
- March 2004 – County to submit preliminary remedial action plan to address gw contamination related to county property



Ongoing Litigation

- Kwikset and Emhart (Black & Decker) have filed litigation seeking relief from Regional Board investigation activities.
- Two Deputies Attorney General, one SWRCB Office of the Chief Counsel attorney, and lawyer representing City of Rialto, as well as hundreds of staff hours for litigation support

Ongoing Litigation

- Tentative decision dismissing Kwikset petition (final decision pending)
- Hearing date on Emhart petition not yet set

Additional Inland Empire Sites

- Chino Basin Watermaster – 28 wells
(Chino, Chino Hills, Ontario, Rancho Cucamonga, and Fontana)
 - ◆ Initiating investigation activities
- East Valley Water District, City of San Bernardino and City of Riverside – 17 wells
 - ◆ Initiating investigation activities

Citrus and Perchlorate

- Many contaminated areas with no sources
- Staff research – Chilean Nitrate fertilizer mined since late 1800's, and imported to citrus groves in Inland Empire from early to mid-1900's (possible from late 1800's)
- Chilean Nitrate, alone or combined with CRW, may be source of widespread low-level perchlorate contamination





Perchlorate in Colorado River

- Releases by Kerr McGee into Las Vegas Wash (500-1000 pounds/day)
- Colorado River water imported to Southern California contains perchlorate
- Recharged into Orange County Groundwater Basin
- 1950-1998: Approximately 2.9 million acre-feet of recharge

Perchlorate in Orange County

- Since 1997, 31 public water supply wells have detected perchlorate
 - ◆ 4.7 to 10.7 ppb
- Orange County Water District monitoring
 - ◆ Shallow GW near recharge areas, as high as 14.7 ppb
 - ◆ 8.35 ppb in deep well (1055 feet)

